



Micro-LEDs | Photo source Shutterstock

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## TINY LEDS COULD HELP REGROW HAIR AT HOME



### **A small, flexible device replicates the actions of large and expensive lasers used to treat baldness.**

With hair loss affecting up to 50 percent of men 49 years old and under, hair loss treatment is a big business. According to a report by [Technavio](#), the global hair loss treatment market could reach revenue close to 2.8 billion USD by 2022. One popular treatment uses red lasers to irradiate the skin. The lasers stimulate dormant hair follicle cells to restart the active stage of their growth cycle. The difficulty is getting the laser light to the follicles. The treatment requires high power, bulky equipment and long exposures. It is generally only available at high-cost in professional clinics. Now, however, scientists have developed a wearable photostimulator that uses small, inexpensive LEDs.

Scientists from the [Korea Advanced Institute of Science and Technology](#) used metal-vapour deposition and photolithography techniques to create a flexible array of 900 micro-LEDs on a chip around the size of a postage stamp. The low-cost fabrication process resulted in a device just 20 microns thick – making it very flexible. Additionally, as the LEDs don't heat up much, they will not damage the skin. They also use just one-thousandth of the power of the larger laser arrays.

In tests on mice, the LED treatment was able to regrow shaved fur faster than mice that received no treatment, or that were treated with hair-growth-promoting Monoxidil injections. The mice using the LED treatment also grew more hair, and longer hair, than the other mice. The results have been published in the journal [ACS Nano](#).

2nd October 2018

## Takeaway:

At Springwise, we have covered a number of portable devices aimed at improving health. These have included a **fitness tracker** that can be worn as a ring, and a wristband that monitors **blood cell count**. The scientists at KAIST hope to join them by developing a human-sized version of the micro-LED device. This could one day allow people to regrow hair in their own homes. Will such a device be practical for treating hair loss?